

*REMARKS**Discussion of Claim Amendments*

Claims 1 and 7 have been amended to recite that the 1,3,5-trisaminophenyl-benzene compound is in a cationic form prior to irradiation. The word “stable” is now unnecessary and, therefore, has been deleted from claims 1 and 7. The claim amendment is supported by the application as filed; for example, it is clear to those skilled in the art reading the specification that applicants were in possession of the concept that the tris-aminophenyl-benzene compound is in a cationic form prior to irradiation. The phrase “and said 1,3,5-tris-aminophenyl-benzene compound” in claim 8 has been deleted as unnecessary. No new matter has been introduced into the application by way of these amendments.

Examiner Interview

Applicants wish to thank Examiner Dr. Jeffrey Thomas Barton for the courtesies extended to Xavier Pillai, one of Applicants’ attorneys during the telephonic interview held on May 23, 2008 to discuss the Office Action. Applicants indicated that the tris-aminophenyl-benzene compound is in a cationic form which is structurally different than the radical cation of the prior art. The Examiner agreed that if the above difference is expressed in the claims, the claims should be allowable. While a suggestion of the phrase “in the absence of irradiation” was made by the Examiner to distinguish the cation from radical cation, for which Applicants are grateful, they prefer to use “prior to irradiation.” A favorable consideration is requested.

The Office Action

The Office Action sets forth the following grounds for rejection:

(1) claim 8 is objected to for an alleged informality;

(2) claims 1-14 are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over EP 1 176 646 A1 (Graetzel et al.) in view of Van der Auweraer et al. (J. Phys. Chem. 1993, 97, 8808-11), with supporting evidence provided by Thelakkat (Macromol. Mater. Eng. 2002, 287, 442-61); and

(3) claims 1, 3-8, and 10-14 are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Graetzel et al. in view of Shirota et al. (J. Mater. Chem., 2000, 10, 1-25), with supporting evidence provided by Thelakkat.

Discussion of Rejections

A. Claim Informality

In view of the amendment to claim 8, the claim objection has been rendered moot, and therefore the objection should be removed.

B. Obviousness Rejections

In view of the amendment to claims 1 and 7, the obviousness rejection has been rendered moot with respect to these claims and claims dependent upon claim 1. The cited references fail to suggest to those of ordinary skill in the art the presently claimed invention wherein a the amino compound is in cationic form prior to irradiation.

It is respectfully submitted that the rejection of claims 8 and 10-14 over Gretzel et al., Shirota and Thelakkat is erroneous. Shirota discloses the results of using several classes of photo- and electro-active organic materials including amorphous molecular materials, titanyl phthalocyanine, oligothiophenes with well-defined structures, and non-conjugated polymers containing pendant oligothiophenes or other pi-electron systems. Among the amorphous molecular materials mentioned are 1,3,5-tris-aminophenyl-benzene compounds according to formula (I). Although Shirota discusses the use of amorphous molecular materials as a class, the use of 1,3,5-tris-aminophenyl-benzene compounds of formula (I) are neither suggested or disclosed. There is no teaching in Shirota that would motivate one skilled in the art to use a 1,3,5-tris-aminophenyl-benzene compound in photovoltaic devices in the manner required by the aforesaid claims. Applicants thus submit that the inventions of claims 8 and 10-14 are patentable over the combination of prior art asserted in the Office Action.

Conclusion

A favorable decision is solicited. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



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